Serial Number: 10/017,642 Filing Date: December 14, 2001

Title: TECHNIQUE TO IMPROVE THE PERFORMANCE OF TRANSMISSION CONTROL PROTOCOL- TCP IN LOSSY

NETWORKS

REMARKS

This responds to the Office Action dated July 24, 2006.

No claims are amended, no claims are canceled, and no claims are added; as a result, claims 1-36 are now pending in this application.

§103 Rejection of the Claims

Claims 1-3, 12-14, 19-21 and 26-29 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Chapman, et al. (U.S. Patent No. 6,922,390) in view of Lee, et al. (U.S. Patent No. 6,587,437). This rejection is respectfully traversed, at least because Chapman et al., does not describe an "impending congestion" indication, but only a congested or not congested indication. In other words, Chapman et al. only indicates congestion at a current time; it does not indicate whether it will be congested anytime soon. A proper *prima facie* case of obviousness has not been established, and the rejection should be withdrawn.

The Patent Office bears the initial burden of factually supporting a prima facte case of obviousness. ¹ In order for the Office Action to establish a prima facte case of obviousness, three criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure.²

The Office Action indicates that Chapman et al., describes "an impending congestion indication (congestion stamp in congestion notification field)." This is respectfully traversed. At Column 5, lines 21-32, a control packet is released to the network with the congestion notification field. The field is described as being set to either "not congested" or "congested."

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¹ MPEP 2142.

MPEP § 2142 (citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)).

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There is no teaching or suggestion of an impending congestion indication. Since Chapman et al., does not describe the impending congestion indication as claimed, the rejection should be withdrawn. The remaining references are not cited as providing such an impending congestion indication, nor has a review by Applicant revealed such a teaching or suggestion in the references alone or combined. Thus at least one element of the claims is lacking. As such, a proper *prima facie* case of obviousness has not been established, and the rejection should be withdrawn.

The Office action refers to Col. 3, lines 25-36, Col. 4, line 61 to Col. 5, line 2 and Col. 6, lines 12-39 as describing the ability of a node to foresee congestion, and appears to equate that ability to an impending congestion notification in a header of a packet. This equating is respectfully traversed. Col. 3, lines 25-36 appear to identify the different types of packets. There is no teaching of any such anticipation of impending congestion indications. Col. 4, line 61 to Col. 5, line 2 merely mentions a congestion notification. As described above, such a notification is limited to either "congestion" or "no congestion". There is no discussion of an "impending congestion indication" as claimed. Col. 6, lines 12-39 appear to describe the well known algorithms of adjusting windows based on received packets with congestion indications. None of the citations to Chapman et al., teach or suggest, either alone or in combination with other references, the use of an impending congestion indication as claimed.

Moreover, the Office Action concedes that Chapman et al., does not disclose a header that includes a "congestion alleviation indication," and relies on the Lee patent to remedy this shortcoming. However, the Office Action never actually states that Lee discloses a congestion alleviation indication in a header, thereby remedying this shortcoming of Chapman, and the Applicant respectfully submits that Lee does not make such a disclosure.

The Office Action, at page 4, states as follows:

Lee et al disclose a congestion control mechanism in which each network element can inform other network elements of congestion by setting the Explicit Forward Congestion Indicator (EFCI) bit in the header of each data cell. A network element in an impending congested state or in a currently congested state may set the EFCI bit. A network element that is not in a congested state or an impending congested state will not modify the value of the EFCI indication. If the EFCI bit is set, the system will lower its

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cell rate to control congestion. Once the congestion is alleviated, the EFCI bit will be set back to "0" to indicate that the network element is not in a congested state or will not be in a congested state.

The Applicant respectfully submits that there is a patentable distinction between the EFCI congestion indicator of Lee and the congestion alleviation indication of the present application. That is, the EFCI may be set to "0" to indicate that there is presently no congestion, but that does not indicate that at a prior time there was congestion, and that that congestion has been alleviated. If the system has not experienced congestion, the EFCI bit will always be set to "0", and no congestion has been alleviated. So an EFCI bit value of "0" does not equate to congestion alleviation. In contrast, the present application discloses and claims a congestion alleviation indicator, Chapman and Lee do not.

Claims 8 and 33 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Chapman et al. (U.S. Patent No. 6,922,390) in view of Lee et al. (U.S. Patent No. 6,587,437) and in further view of LaGalbo et al. (U.S. Patent No. 6,947,446). This rejection is respectfully traversed. None of the references, alone or combined, describe the use of an impending congestion indication or a congestion alleviation indication as indicated above. The Applicant respectfully submits that the rejection should be withdrawn.

Claims 9, 10 and 34-36 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Chapman et al. (U.S. Patent No. 6,922,390) in view of Lee et al. (U.S. Patent No. 6,587,437) and in further view of Takagi (U.S. Patent No. 6,937,600). This rejection is respectfully traversed. None of the references, alone or combined, describe the use of an impending congestion indication or a congestion alleviation indication as indicated above. The Applicant respectfully submits that the rejection should be withdrawn.

Applicant reserves the right to point out further distinctions between the claims and the cited art. It is thought that the above distinctions should be sufficient to overcome the current rejections of the claims.

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Allowable Subject Matter

Claims 4-7, 15-18, 22-25 and 30-32 were objected to as being dependent upon a rejected base claim, but were indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The Applicant gratefully acknowledges the allowability of these claims. The Applicant further respectfully submits that as pointed out above, the claims on which these claims depend are also allowable.

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CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (612) 373-6972 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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Date 9-25-2006

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being filed using the USPTO's electronic filing system EFS-Web, and is addressed to: Commissioner of Patents, P.O. Boy 1450, Alexandria, VA 22313-1450 on this Co. day of

Name

Signature